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L-9 | **LOGICAL DEDUCTION**

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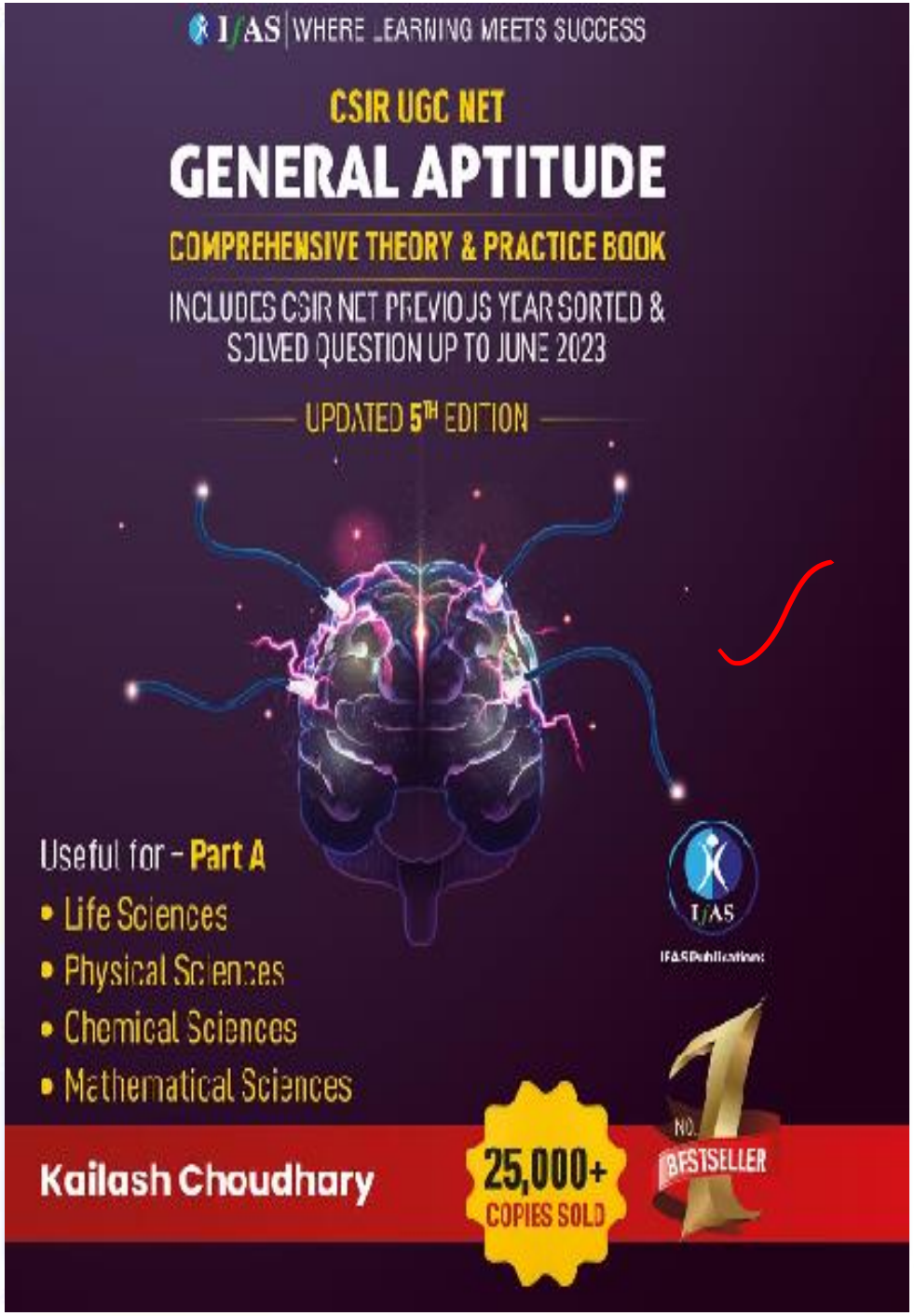
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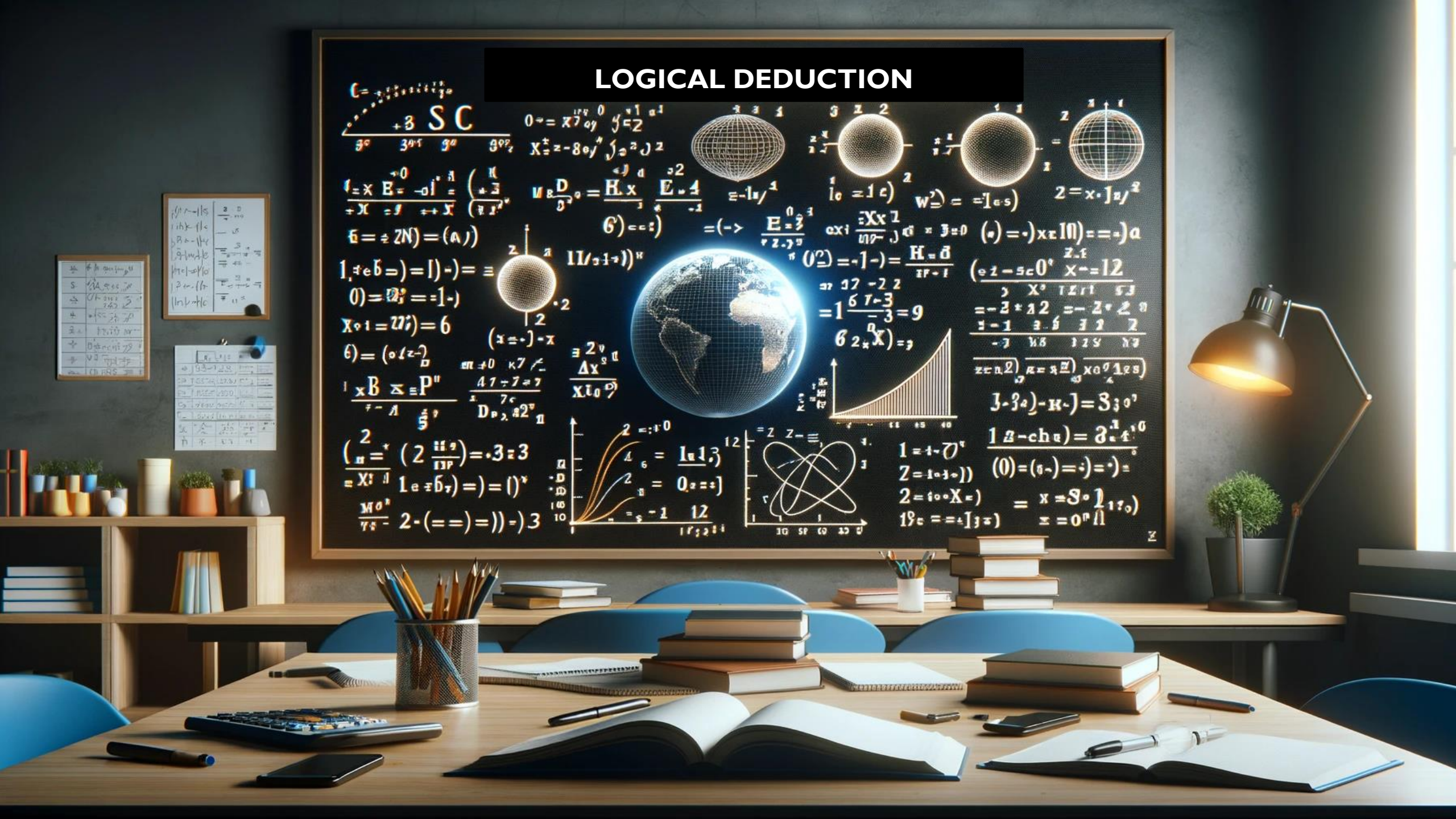
Topic Covered in Today's Session

1. What is seating arrangement?
2. Type of seating arrangements?
3. Order and ranking?
4. Practice questions

LOGICAL DEDUCTION



Circular arrangement

Even No.

8 Students

Who is seating second to the Right of 1.

⇒ 3

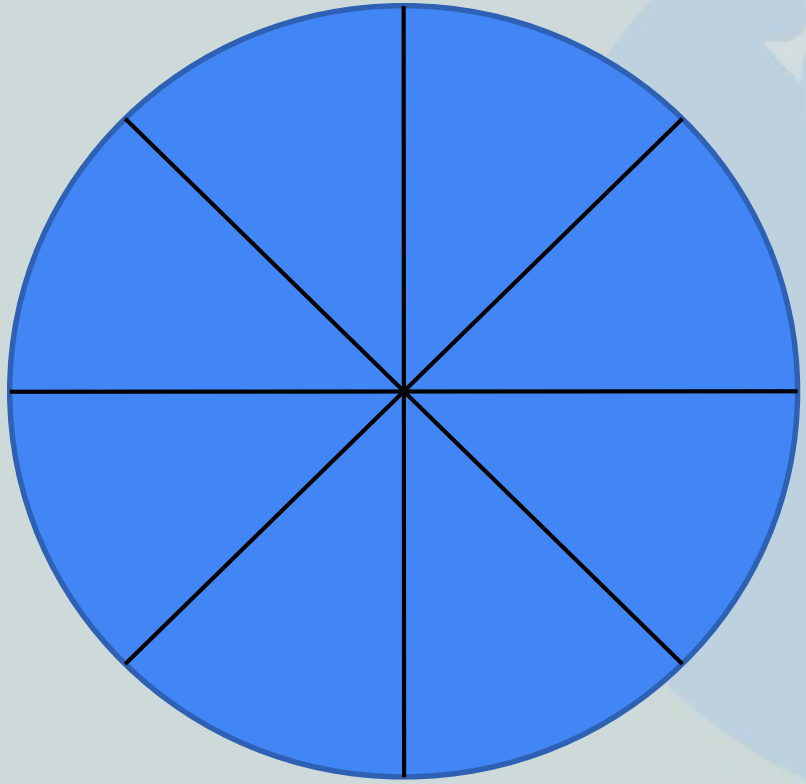
Who is seating 3rd Left of 6.

⇒ 3

Who is seating opposite to the person who is second left of 2.

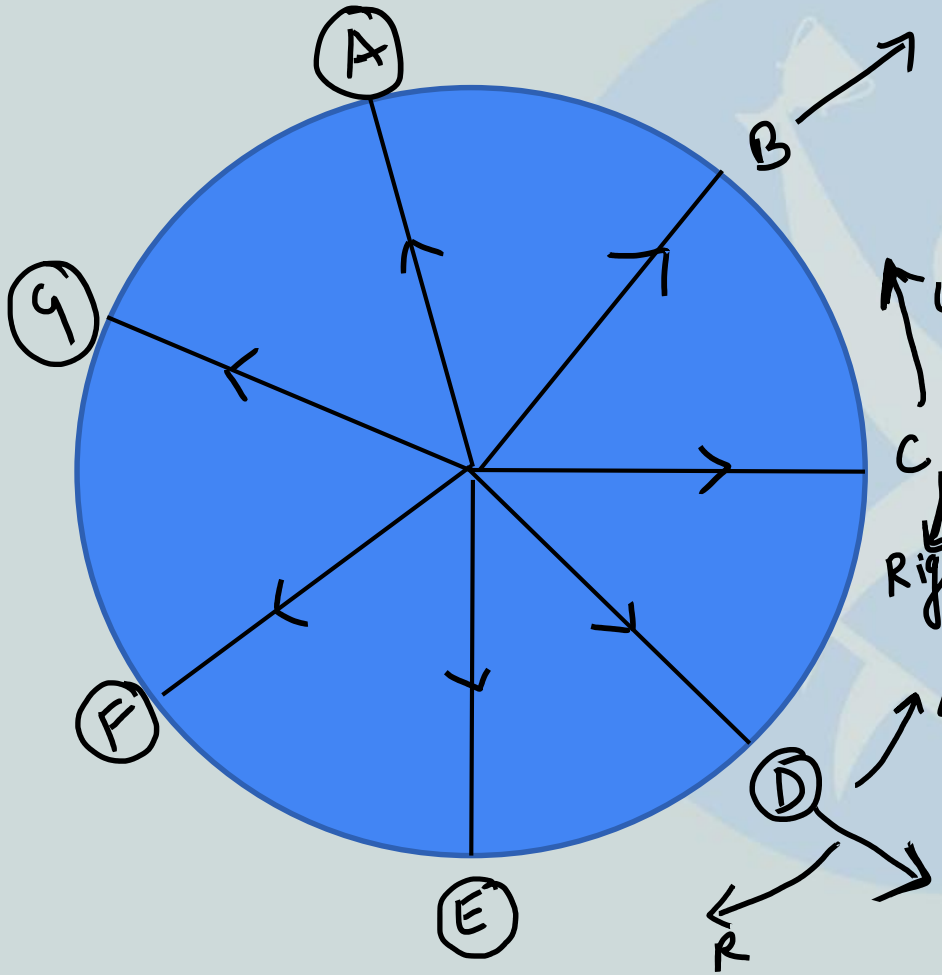
⇒ 4

For even number of persons



For odd number of persons

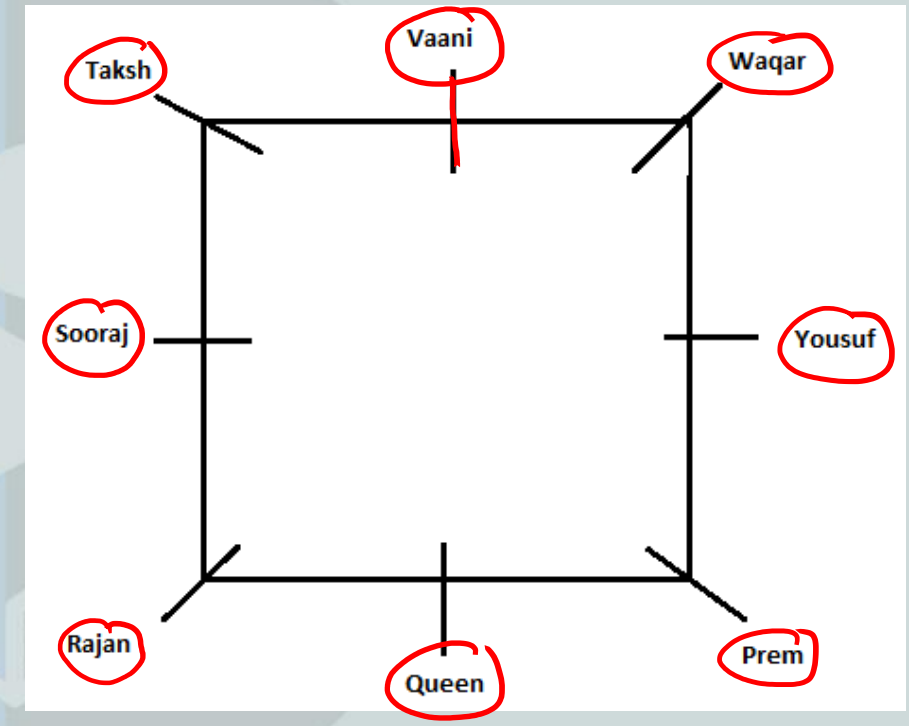
Facing outside



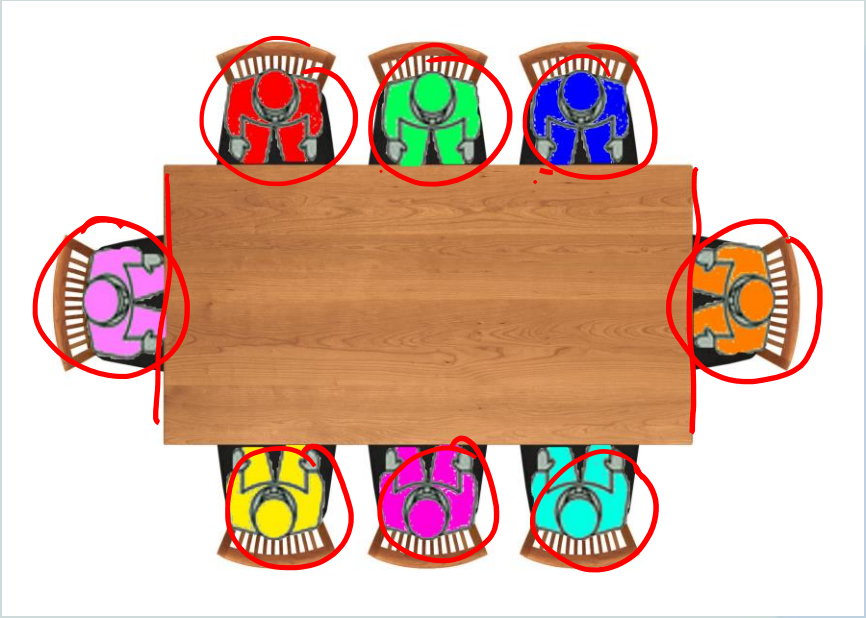
Who is seating 4th to the Right of D.

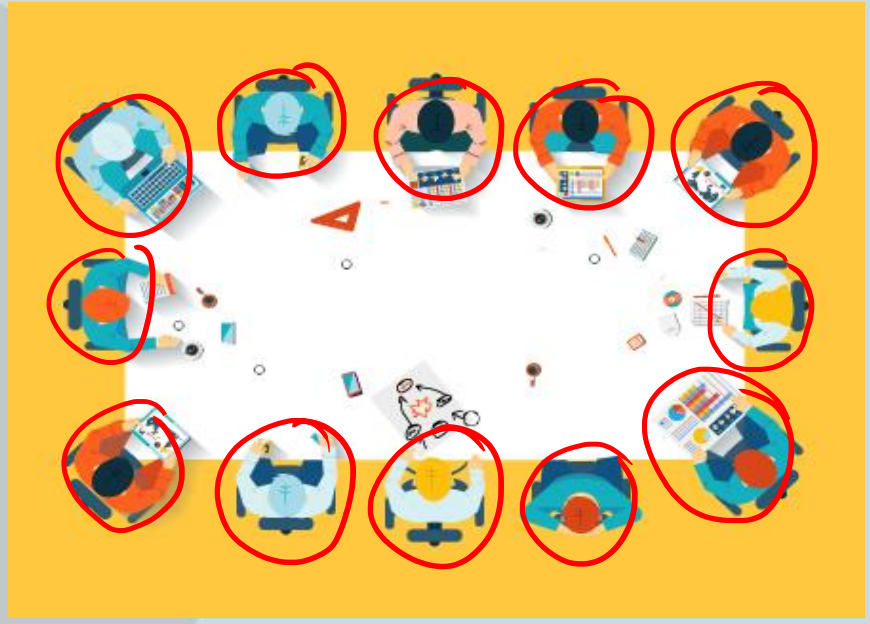
= A.

Square arrangement

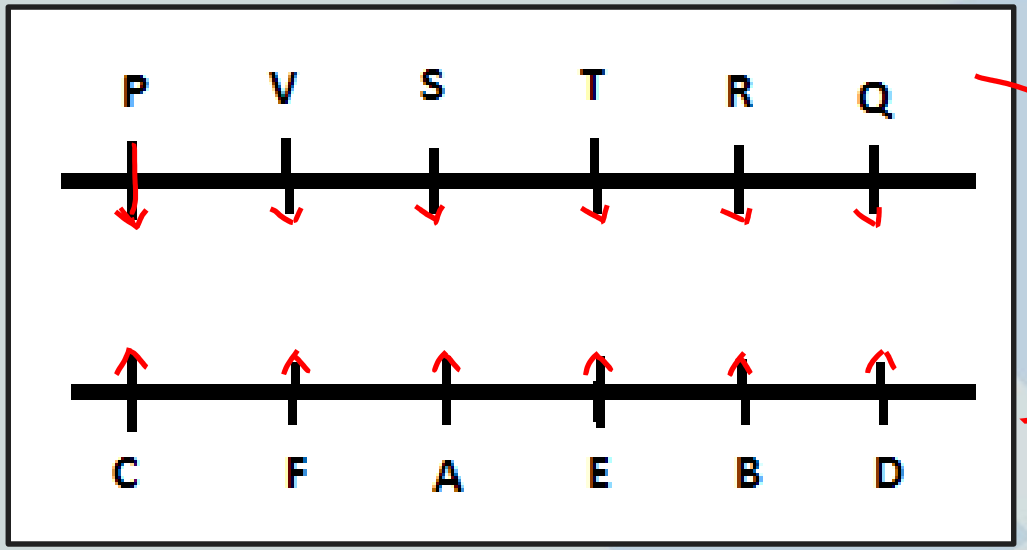


Rectangular arrangement

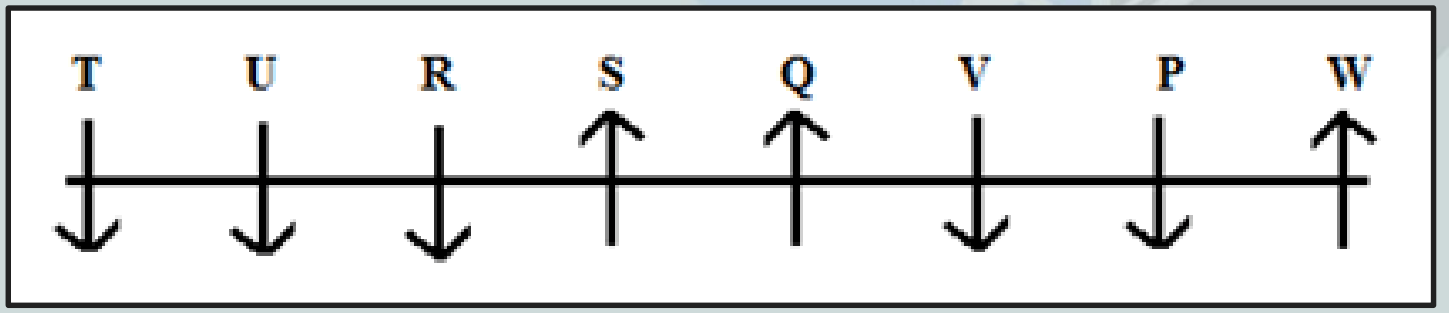




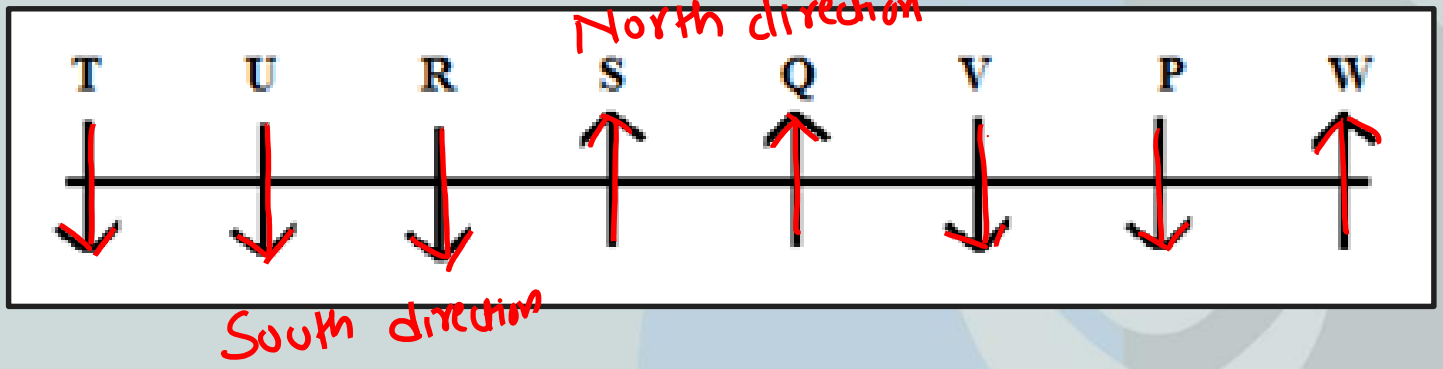
Parallel arrangement

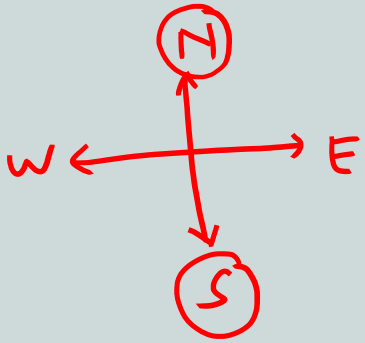


Linear arrangement



Linear arrangement

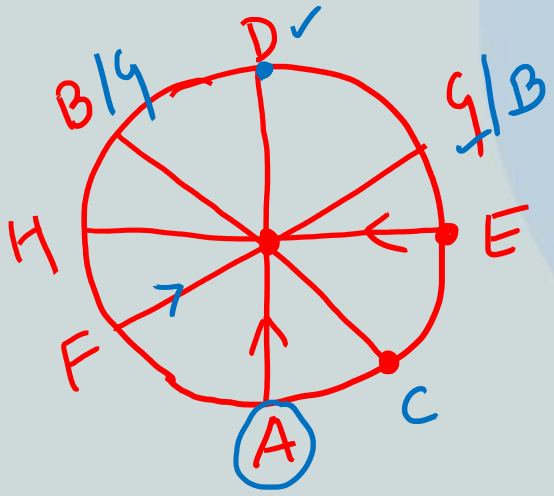




Study the following information to answer the given B question.

(i) Eight friends A, B, C, D, E, F, G and H are seated in a circle facing centre.
(ii) D is between B and G and F is between A and H.
(iii) E is second to the right of A.

Which is the following is A's position?
(1) Left of F (2) Right of F (3) Between E and F (4) can't be determined

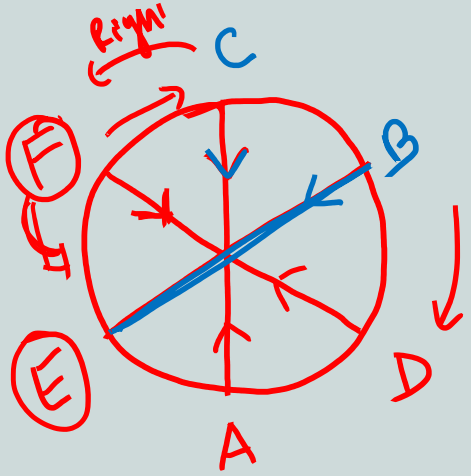


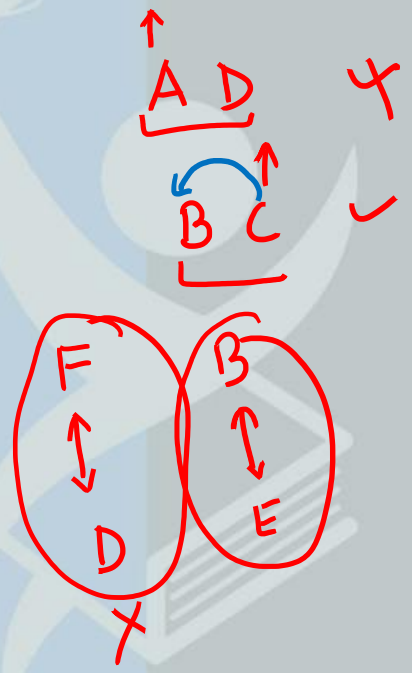
B D G

A F H 4

A, B, C, D, E and F are three couples sitting around a round table. D is to the right of A and B is to the left of C. F – D and B – E are two pairs of person sitting opposite each other. Who is sitting to the left of F?

(1) A (2) B (3) C (4) E

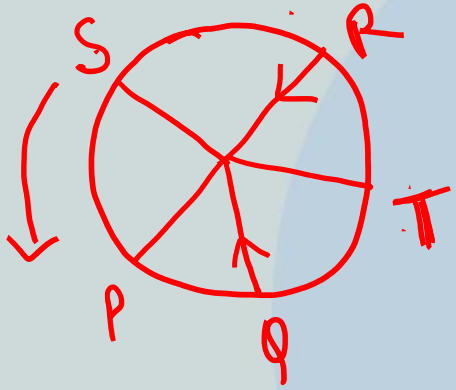


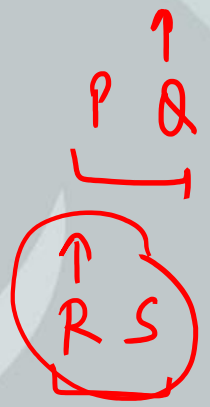


odd

Five players, P, Q, R, S and T are playing cards on a table facing the center. P is on the left of Q but not a neighbour of T. S is on the right of R and is not a neighbour of Q. T is on the right of Q. Who is on the right of S?

(A) R
(B) P
(C) T
(D) Q





In a race five drivers were in the following situation. M was following V, R was just ahead of T, and K was the only one between T and V. Who was in the second place at that instant?

(1) V
(2) R
(3) T
(4) K

Ashok jumped higher than Mohan but not higher than Chetan. Naresh jumped higher than Krishna but not as high as that of Mohan. Then what is the correct descending order of players considering their jump?

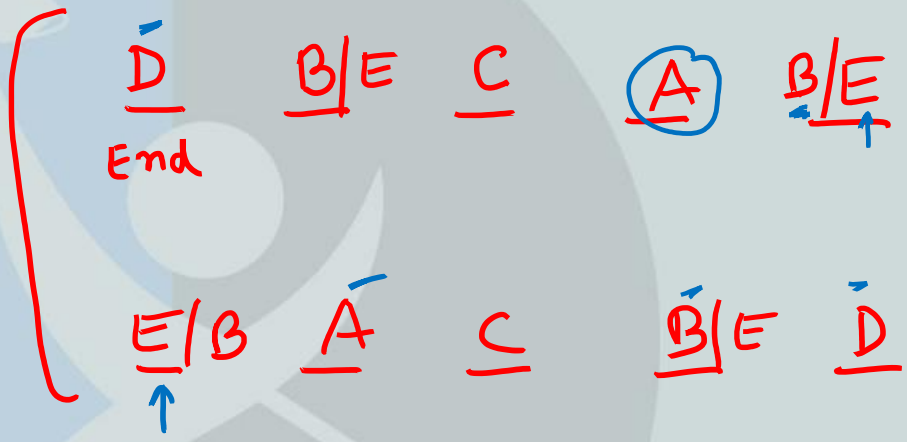
(A) Mohan, Chetan, Ashok, Naresh, Krishna
(B) Chetan, mohan, Ashok, Naresh, Krishna
(C) Chetan, Ashok, Mohan, Naresh, Krishna
(D) Chetan, Naresh, Mohan, Ashok, Krishna

Mohini, Nanda, Seema, Anisha and Sangeeta are participating in a race. At the end of the race, Seema was ahead of Nanda but behind Anisha. Mohini was behind of all. Sangeeta was ahead of Seema. Who must be the first three in order of finishing the race?

(A) Mohini, Sangeeta, Seema
(B) Sangeeta, Seema, Anisha
(C) Anisha, Sangeeta, Seema
(D) Seema, Sangeeta, Anisha

Five persons A, B, C, D, and E are sitting in a row with C in the middle of the group. If D is at an extreme end and there are at least two persons between B and E, then which of the following statements is incorrect?

(1) E can be on extreme left
(2) E can be on extreme right
(3) A cannot be on extreme left
(4) A is always a neighbor of B or D



Among A, B, C and D, there is a lawyer, a doctor, a teacher and a journalist. They drink exactly one each of tea, coffee, lemonade and milk. If neither the lawyer nor the teacher drinks milk, B drinks coffee, A is the teacher and C is the doctor and drinks tea, then which of the following is FALSE?

IPYQ

1. A drinks lemonade
2. B is the journalist
3. The lawyer drinks coffee
4. D drinks milk

A → Lemonade → Teacher

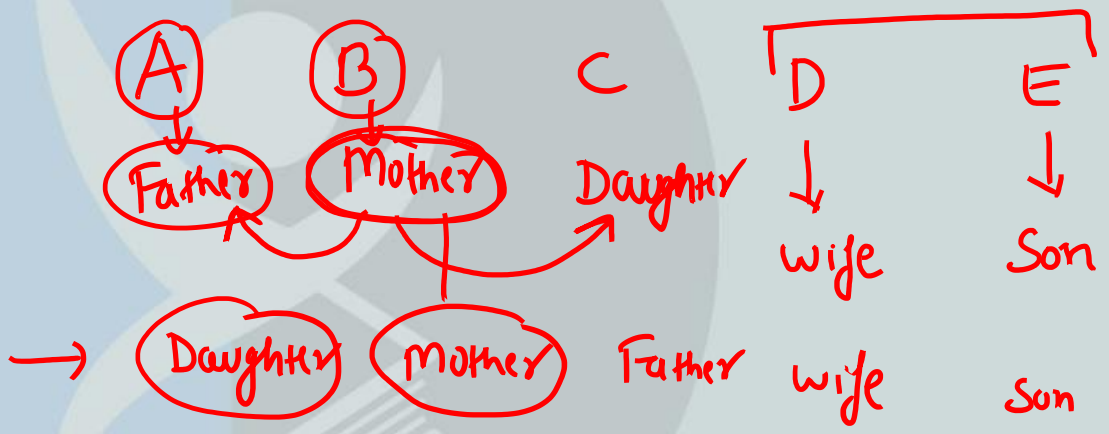
B → Coffee → Lawyer

C → Tea → Doctor

D → Milk → Journalist

A family of mother, father, daughter, son and his wife pose for a photograph occupying sequential positions A, B, C, D and E in a line. Spouses are next to each other and the daughter is next to her mother. If E is occupied by the son, which of the following is necessarily true ?

1. A is occupied by the father
2. B is occupied by the mother
3. C is occupied by the daughter
4. D is occupied by the daughter

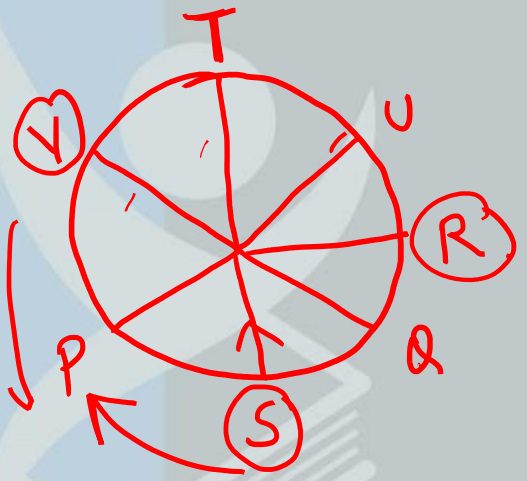


Read the given statements carefully and answer the following questions.

1 min

(A) P, Q, R, S, T, U, and V are sitting around a circle facing towards the center.
(B) P sits between V and S.
(C) R, who is second to the right of S, is sitting between Q and U.
(D) Q is not the neighbor of T.

V P S



Which of the following statement is true?

(a) V is between P and S. ✗
(b) S is second to the left of V ✗
(c) R is third to the left of P ✗
(d) P is at the immediate left of S

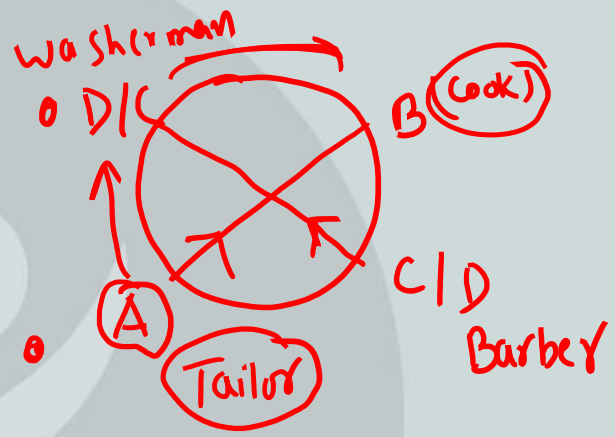
Mr. A, Miss B, Mr. C and Miss D are sitting around a table and discussing their trades.

(i) Mr. A sits opposite to the cook.

(ii) Miss B sits right to the barber

(iii) The washerman is on the left of the tailor.

(iv) Miss D sits opposite to Mr. C



What are the trades of A and B?

(1) Tailor and barber

(2) Barber and cook

(3) Tailor and cook

(4) Tailor and washerman

Study the following information carefully and answer the questions accordingly.

Six people bought shoes on three different dates i.e. 4th, 11th, and 20th in two different months i.e. April and July of the same year but not necessarily in the same order. Z bought the shoes before F. X bought the shoes before V. F bought the shoes on the 20th. O bought the shoes immediately after Q in the same month. Three people bought the shoes between F and V.

Who bought the shoes immediately after V?

(a) Q
(b) F
(c) None
(d) Z

Seven people i.e., A, B, C, D, E, F, and G are going to Delhi on seven different days of a week starting Sunday to Saturday. All the information is not necessarily in the same order.
G goes on Wednesday. Two people go between G and A. Number of people go before A is the same as after C. Two people go between B and D. D goes after G. Only one person goes between B and E. F goes between C and B.

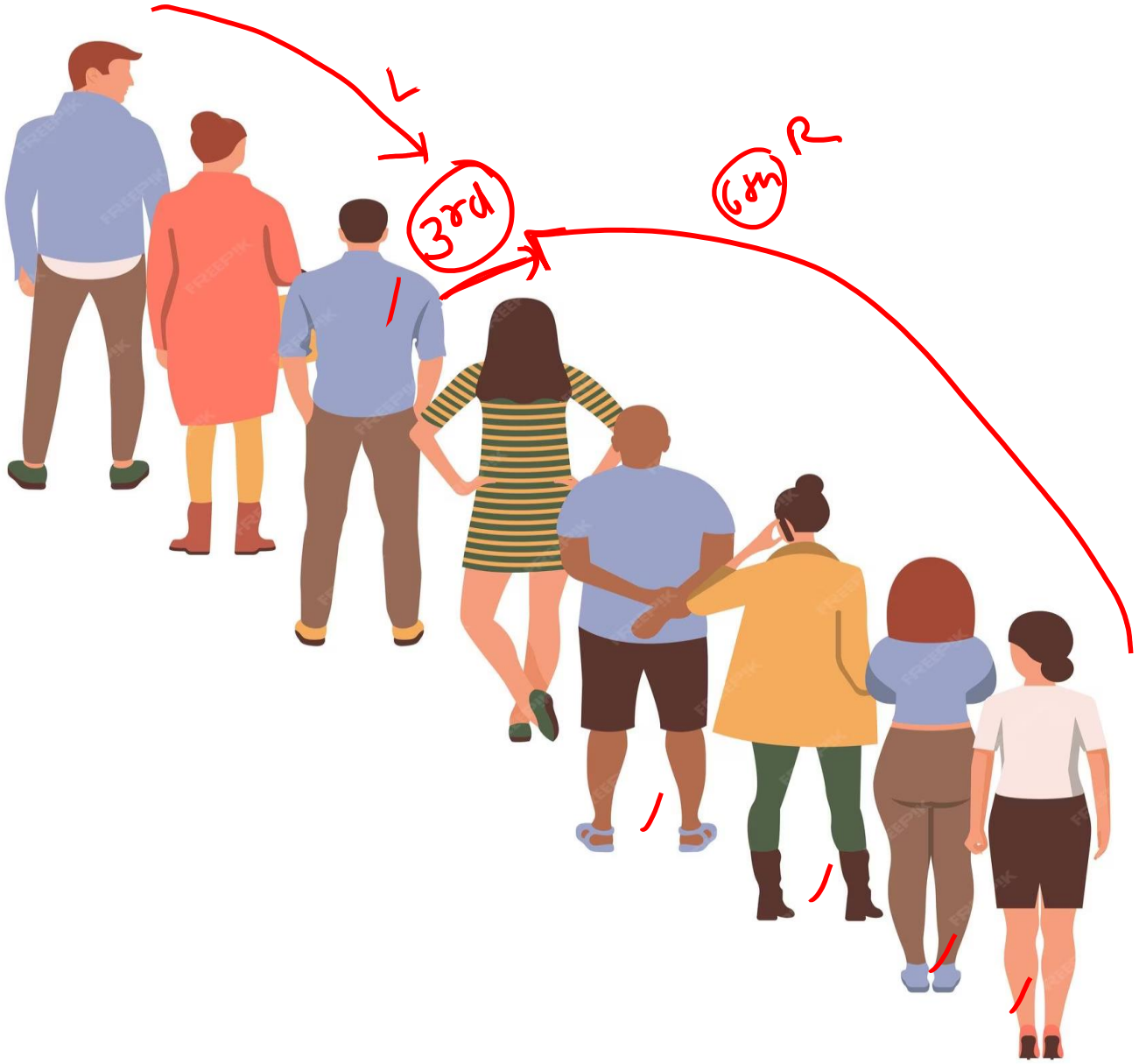
How many people go after C?
(a) Three
(b) No one
(c) Six
(d) Five

Order & Ranking

- Comparison Based: Quantity comparison (Height /weight etc)

- Ranking Based:

  - Rank of a person from the right or left side
  - Total number of people for the data which is given
  - Maximum or minimum number of people in one row
  - Total number of people between the two people
  - After interchanging the position rank of a person



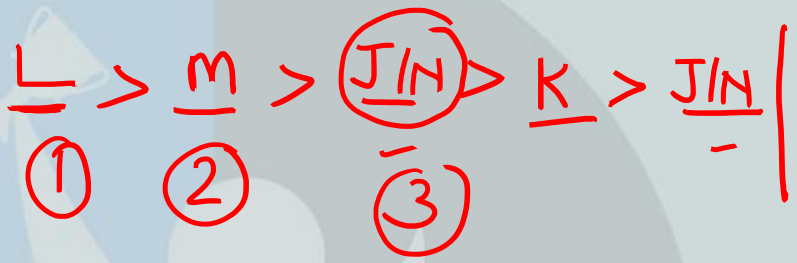
Total Person in a Row = (R + L − 1)

= (6 + 3 − 1)

= 9 − 1 = 8

Among J, K, L, M and N, each one of them is of different heights, K is taller than only one person. M is shorter than only L. M is taller than J and N (both). Who among them is the third tallest?

(a) J
(b) K
(c) N
(d) Either (a) or (c)



L is the tallest and eldest of a group of five people K, L, M, N and P. M is elder to N and shorter than K. M and P are of same age and P is taller than K. N and K are of same height and K is younger to P. Which of the following inferences is certain?

(1) P is taller than M
(2) N is the youngest
(3) N is elder to P
(4) N is elder to K

Height

$P > N = K > M$

Age

$P = M \geq N > K$

$P/M > K > N$

Among A, B, C and D, C is shorter than D but smarter than D. B is taller than D, but not smarter than D. A is not taller than C, but smarter than C. Then among them

1. A is the shortest and B is the least smart
2. B is the shortest and C is the least smart
3. B is the shortest and A is the least smart
4. C is the shortest and A is the least smart

Height

B > D > C > A

Smartness

A > C > D > B

Amongst six friends – P, Q, R, S, T and U, each has different heights. P is taller than Q but not as tall as U. S is shorter than only two persons. U is not the tallest person. T is shorter than R. Q is not the shortest person.... Read more at:

Who among the following is the second tallest person?

(a) R
(b) U
(c) P
(d) T

Amongst six friends – F, G, H, I, J and K each have different heights. G is not as tall as J but taller than F. H is shorter than K but taller than J and F. I is the third shortest among all the friends. The height of the tallest person is 40cm and the second shortest person is 21cm.

If total height of G and J is 56cm, then what is the height of J?

(a) 38cm
(b) 42cm
(c) 18cm
(d) 35cm

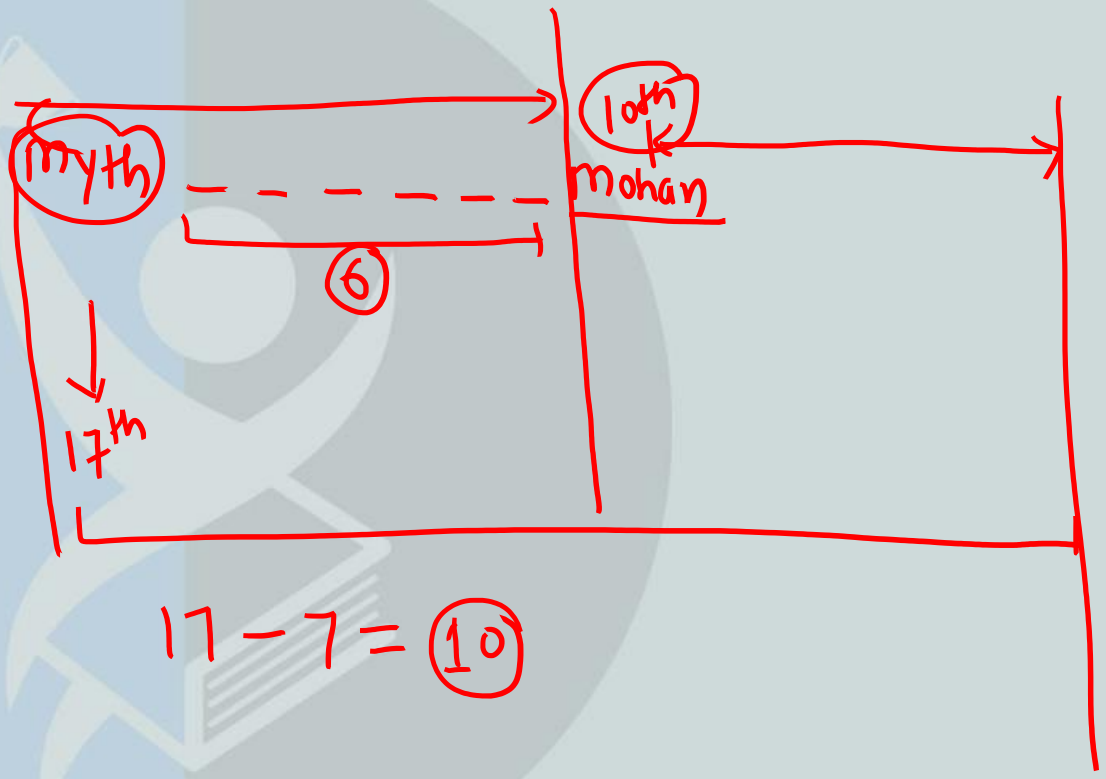
In a row Suresh is 17th from the left and 19th from right then what is the total number of candidates in that row?

(A) 35
(B) 36
(C) 38
(D) 29

Total person = (17 + 19 − 1) = 36 − 1 = 35

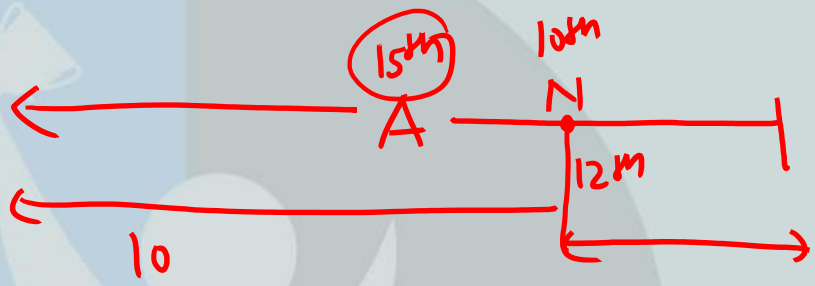
In a row Mohan is seventh to the right of a myth who is 17th from the right end. What is the rank of Mohan from the right side of the row?

(A) 24
(B) 10
(C) 23
(D) 9



In a row of students, Ashish is 15 th from the right end and Neha is 10 th from the left end. If in this row Neha is 12 th from the right, then what is the position of Ashish from the left?

(a) 8th
(b) 7th
(c) 10th
(d) 12th



$$\text{Total} = (R + L - 1)$$

$$= (12 + 10 - 1)$$

$$= 21$$

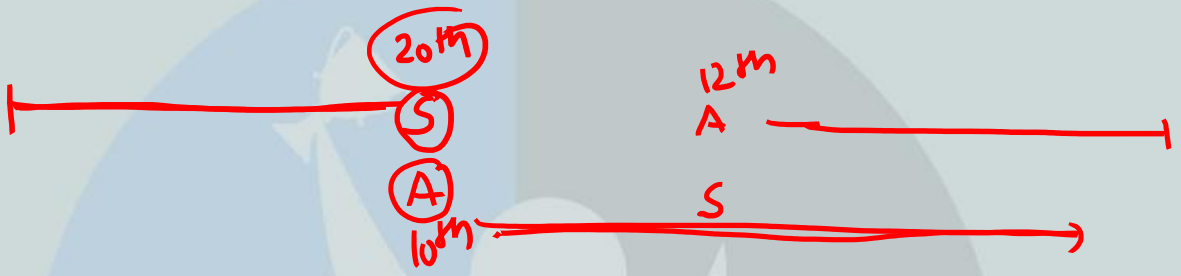
$$21 = (15 + L - 1)$$

$$21 = 14 + L$$

$$L = 7^{th}$$

Sameer is 20 th from the left end of a row and Arun is 12 th from the right end of row. If they interchanged their positions, then arun ranks become 10 from right end. Find total number of persons in the row?

(a) 30
(b) 39
(c) 29
(d) 31



Total = (20 + 10 − 1)

= 29

John is 15th from the left end of a row of 30 students and Monika is 20th from the right end in the same row. How many students are there between them in the row?

(a) 3
(b) 2
(c) 1
(d) 5

In a queue, A stands 14th from the front and B 17th from the last. C is exactly at the middle of the queue with 16 persons between him and A. How many persons are between B and C?

1. 11
2. 12
3. 13
4. 14

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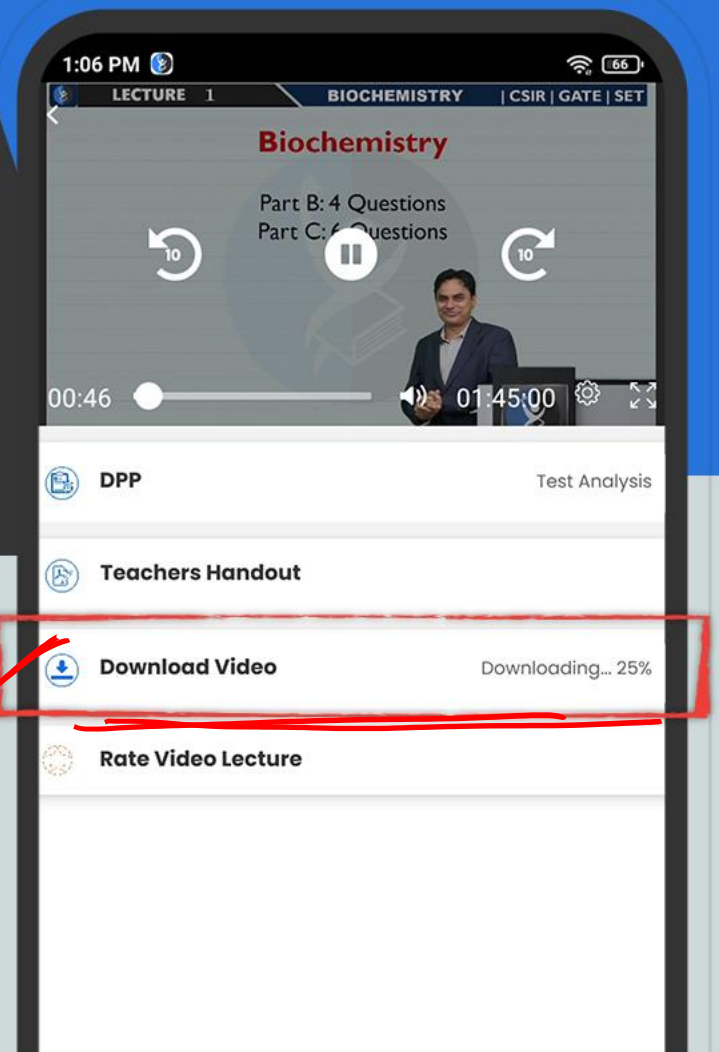

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